EXHIBIT A

Exhibit A: P.R. 4-5(d) Joint Claim Construction Chart

U.S. Patent No. 8,441,438				
Claim Language	**Term/Phrase/Clause**	**CyWee's Construction**	**Samsung's Construction**	**Court's Construction**
1. A **three-dimensional (3D) pointing device** subject to movements and rotations in dynamic environments, comprising: a housing associated with said movements and rotations of the **3D pointing device** in a spatial pointer reference frame; a printed circuit board (PCB) enclosed by the housing; a **six-axis motion sensor module** attached to the PCB, comprising a rotation sensor for detecting and generating a first signal set comprising angular velocities ωx, ωy, ωz associated with said movements and rotations of the **3D pointing device** in the spatial pointer reference frame, an accelerometer for detecting and generating a second signal set comprising axial accelerations Ax, Ay, Az associated with said movements and rotations of the **3D pointing device** in the spatial pointer reference frame; and a processing and transmitting module,	"three-dimensional (3D) pointing device"/"3D pointing device" (Claims 1, 3, 4, 5, 14, 15, 16, 17, 19)	This term need not be construed. In the alternative, this term may be construed as: "a handheld device that uses at least a rotation sensor comprising one or more gyroscopes, and one or more accelerometers to determine deviation angles or the orientation of a device."	"a device that detects the motion of the device in three-dimensions and translates the detected motions to control the movement of a cursor or pointer on a display"	
	"spatial pointer reference frame"/"spatial pointer reference from of a three-dimensional (3D) pointing device"/"spatial reference frame of the 3D pointing	**[AGREED]**	**[AGREED]**	"a frame of reference associated with the 3D pointing device, which always has its origin at the same point in the device and in which the axes

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comprising a data transmitting unit electrically connected to the **six-axis motion sensor module** for transmitting said first and second signal sets thereof and a computing processor for receiving and calculating said first and second signal sets from the data transmitting unit, communicating with the **six-axis motion sensor module** to calculate a resulting deviation comprising resultant angles in said spatial pointer reference frame by **utilizing a comparison to compare the first signal set with the second signal set** whereby said resultant angles in the spatial pointer reference frame of the resulting deviation of the **six-axis motion sensor module** of the **3D pointing device** are obtained under said dynamic environments, wherein the comparison utilized by the processing and transmitting module further comprises an update program to obtain an updated state based on a previous state associated with said first signal set and a measured state associated with said second signal set; wherein the measured state includes a measurement of said second signal set and a predicted measurement obtained based on	device" (Claims 1, 4, 14, 15, 19)			are always fixed with respect to the device"
	"six-axis motion sensor"/"six-axis motion sensor module" (Claims 1, 5, 14, 15, 16, 17, 19)	This term need not be construed. In the alternative, this term may be construed as: "a collection of components comprising a rotation sensor comprising one or more gyroscopes for collectively generating three angular velocities and one or more accelerometers for collectively generating three axial accelerations where said gyroscopes) and accelerometer(s) are mounted on a	"a module consisting of two types of sensors: (i) a rotation sensor and (ii) one or more accelerometers"	

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the first signal set without using any derivatives of the first signal set. 3. The **3D pointing device** of claim 1, wherein the PCB enclosed by the housing comprises at least one substrate having a first longitudinal side configured to be substantially parallel to a longitudinal surface of the housing. 4. The **3D pointing device** of claim 1, wherein the spatial pointer reference frame is a reference frame in three dimensions; and wherein said resultant angles of the resulting deviation includes yaw, pitch and roll angles about each of three orthogonal coordinate axes of the spatial pointer reference frame. 5. The **3D pointing device** of claim 1, wherein the data transmitting unit of the processing and transmitting module is attached to the PCB enclosed by the housing and transmits said first and second signal of the **six-axis motion sensor module** to the computing processor via electronic connections on the PCB.		common PCB"		
	"detecting and generating a first signal set" (Claim 1)	**[AGREED]**	**[AGREED]**	Plain and ordinary meaning
	"detecting and generating a second signal set" (Claim 1)	**[AGREED]**	**[AGREED]**	Plain and ordinary meaning
	"resulting deviation comprising resultant angles in said spatial pointer reference frame"/"resulting deviation comprising said resultant angles in said spatial pointer reference frame of the 3D pointing device" (Claim 1, 14, 19)	**[AGREED]**	**[AGREED]**	Plain and ordinary meaning

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14. A method for obtaining a resulting deviation including resultant angles in a spatial pointer reference frame of a **three-dimensional (3D) pointing device** utilizing a **six-axis motion sensor module** therein and subject to movements and rotations in dynamic environments in said spatial pointer reference frame, comprising the steps of: obtaining a previous state of the **six-axis motion sensor module**; wherein the previous state includes an initial-value set associated with previous angular velocities gained from the motion sensor signals of the **six-axis motion sensor module** at a previous time T−1; obtaining a current state of the **six-axis motion sensor module** by obtaining measured angular velocities ωx, ωy, ωz gained from the motion sensor signals of the **six-axis motion sensor module** at a current time T; obtaining a measured state of the **six-axis motion sensor module** by obtaining measured axial accelerations Ax, Ay, Az	"utilizing a comparison to compare the first signal set with the second signal set" (Claim 1)	"determining or assessing differences based on a previous state associated with the first signal set and a measured state associated with the second signal set while calculating deviation angles"	Indefinite	
	"the measured state includes a measurement of said second signal set and a predicted measurement obtained based on the first signal set without using any derivatives of the first signal set" (Claim 1)	**[AGREED]**	**[AGREED]**	"the measured state includes a measurement of axial accelerations and predicted axial accelerations calculated using the angular velocities without computing derivatives of said angular velocities (i.e. angular accelerations)"

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gained from the motion sensor signals of the **six-axis motion sensor module** at the current time T and calculating predicted axial accelerations Ax′, Ay′, Az′ based on the measured angular velocities ωx, ωy, ωz of the current state of the **six-axis motion sensor module** without using any derivatives of the measured angular velocities ωx, ωy, ωz; said current state of the **six-axis motion sensor module** is a second quaternion with respect to said current time T; **comparing the second quaternion in relation to the measured angular velocities ωx, ωy, ωz of the current state at current time T with the measured axial accelerations Ax, Ay, Az and the predicted axial accelerations Ax′, Ay′, Az′ also at current time T**; obtaining an updated state of the **six-axis motion sensor module** by comparing the current state with the measured state of the **six-axis motion sensor module**; and calculating and converting the updated state of the **six-axis motion sensor module** to said resulting deviation comprising said resultant angles in said spatial pointer reference frame of the **3D pointing device.**	"calculating predicted axial accelerations Ax′, Ay′, Az′ based on the measured angular velocities ωx, ωy, ωz of the current state of the six-axis motion sensor module without using any derivatives of the measured angular velocities ωx, ωy, ωz" (Claims 14, 19)	**[AGREED]**	**[AGREED]**	Plain and ordinary meaning
	"comparing the second quaternion in relation to the measured angular velocities ωx, ωy, ωz of the current state at current time T with the measured axial accelerations Ax, Ay, Az and the predicted axial accelerations Ax′, Ay′, Az′ also at	This term need not be construed. In the alternative, this term may be construed as: "utilizing the second quaternion obtained from the measured angular velocities ωx, ωy, ωz of the current state at current time	Indefinite	

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15. The method for obtaining a resulting deviation of a **3D pointing device** of claim 14, further comprises the step of outputting the updated state of the **six-axis motion sensor module** to the previous state of the **six-axis motion sensor module**; and wherein said resultant angles of the resulting deviation includes yaw, pitch and roll angles about each of three orthogonal coordinate axes of the spatial pointer reference frame. 16. The method for obtaining a resulting deviation of a **3D pointing device** of claim 14, wherein said previous state of the **six-axis motion sensor module** is a first quaternion with respect to said previous time T−1; and said updated state of the **six-axis motion sensor module** is a third quaternion with respect to said current time T. 17. The method for obtaining a resulting deviation of **3D pointing device** of claim 14, wherein the obtaining of said previous state of the **six-axis motion sensor module** further comprises initializing said initial-value set.	current time T" (Claims 14, 19)	T, the measured axial accelerations Ax, Ay, Az, and the predicted axial accelerations Ax', Ay', Az' also at current time T to obtain an updated state or updated quaternion."		

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19. A method for obtaining a resulting deviation including resultant angles in a spatial pointer reference frame of a **three-dimensional (3D) pointing device** utilizing a **six-axis motion sensor module** therein and subject to movements and rotations in dynamic environments in said spatial pointer reference frame, comprising the steps of: obtaining a previous state of the **six-axis motion sensor module**; wherein the previous state includes an initial-value set associated with previous angular velocities gained from the motion sensor signals of the **six-axis motion sensor module** at a previous time T−1; obtaining a current state of the **six-axis motion sensor module** by obtaining measured angular velocities ωx, ωy, ωz gained from the motion sensor signals of the **six-axis motion sensor module** at a current time T; obtaining a measured state of the **six-axis motion sensor module** by obtaining measured axial accelerations Ax, Ay, Az gained from the motion sensor signals of the **six-axis motion sensor**				

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module at the current time T and calculating predicted axial accelerations Ax′, Ay′, Az′ based on the measured angular velocities ωx, ωy, ωz of the current state of the **six-axis motion sensor module** without using any derivatives of the measured angular velocities ωx, ωy, ωz; said current state of the **six-axis motion sensor module** is a second quaternion with respect to said current time T; **comparing the second quaternion in relation to the measured angular velocities ωx, ωy, ωz of the current state at current time T with the measured axial accelerations Ax, Ay, Az and the predicted axial accelerations Ax′, Ay′, Az′ also at current time T**; obtaining an updated state of the **six-axis motion sensor module** by comparing the current state with the measured state of the **six-axis motion sensor module**; and calculating and converting the updated state of the six-axis motion sensor module to said resulting deviation comprising said resultant angles in said spatial pointer reference frame of the **3D pointing device.**				

U.S. Patent No. 8,552,978				
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10. A method for compensating rotations of a **3D pointing device**, comprising: generating an orientation output associated with an orientation of the **3D pointing device** associated with three coordinate axes of a **global reference frame associated with Earth;** generating a first signal set comprising axial accelerations associated with movements and rotations of the **3D pointing device** in the spatial reference frame; generating a second signal set associated with Earth's magnetism; **generating the orientation output based on the first signal set, the second**	"3D pointing device" (Claim 10)	This term need not be construed. In the alternative, this term may be construed as: "a handheld device that includes at least one or more accelerometers and a magnetometer, and optionally a rotation sensor comprising one more gyroscopes, and uses them to determine deviation angles or the orientation of a device"	"a device that detects the motion of the device in three-dimensions and translates the detected motions to control the movement of a cursor or pointer on a display"	
	"global reference frame associated with Earth" (Claim 10)	This term need not be construed. In the alternative, this term may be construed as: "reference frame with axes defined with respect to Earth"	"an Earth-centered coordinate system with an origin and a set of three coordinate axes defined with respect to Earth"	
	"spatial reference frame"/"spatial reference frame	**[AGREED]**	**[AGREED]**	"frame of reference associated with the 3D pointing device, which

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signal set and the rotation output or based on the first signal set and the second signal set; generating a rotation output associated with a rotation of the **3D pointing device** associated with three coordinate axes of a spatial reference frame associated with the **3D pointing device**; and **using the orientation output and the rotation output to generate a transformed output associated with a fixed reference frame associated with a display device,** wherein the orientation output and the rotation output is generated by a nine-axis motion sensor module; obtaining one or more	associated with the 3D pointing device" (Claim 10)			always has its origin at the same point in the device and in which the axes are always fixed with respect to the device."
	"generating the orientation output based on the first signal set, the second signal set and the rotation output or based on the first signal set and the second signal set" (Claim 10)	This term need not be construed. In the alternative, this term may be construed as: "generating the orientation/ deviation angle output based on (1) the first signal set (from an accelerometer), the second signal set (from a magnetometer) and the rotation output (from a rotation sensor or gyroscope) or (2) the first signal set (from an accelerometer) and the second signal set (from a magnetometer)"	Indefinite	

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resultant deviation including a plurality of deviation angles using a plurality of measured magnetisms Mx, My, Mz and a plurality of predicted magnetism Mx′, My′ and Mz′ for the second signal set. 12. The method of claim 10, wherein the orientation output is a rotation matrix, a quaternion, a rotation vector, or comprises three orientation angles.	"using the orientation output and the rotation output to generate a transformed output associated with a fixed reference frame associated with a display device" (Claim 10)	"using the orientation output and the rotation output to generate a transformed output represented by a 2-dimensional move-ment in a fixed reference frame that is parallel to the screen of a display device"	"using the orientation output and the rotation output to generate a transformed output representing a two-dimensional move-ment in a fixed reference frame that is parallel to the screen of the display device"	